



PETROLEUM PRODUCT MIXED WITH WATER

Technical Guidance Document HW 97-01

The following guidance provides a general overview of the management options for the handling of **Petroleum Product/Water** mixtures. These options may vary greatly from case to case so specific questions must be addressed to KDHE for a final decision as to the correct interpretation of the regulations.

Petroleum Product/Water mixtures occur both as the result of natural chemical/physical reactions in industrial process operations, such as water vapor condensation in a storage tank, and as the result of spills from routine handling and traffic accidents. The mixtures typically consist of the product, which could be one or more off-specification product(s), and contaminated waters from the process or natural sources.

The **Petroleum Product/Water** mixture may not be subject to the Resource Conservation and Recovery Act (RCRA) regulation, even though the product may be listed as a hazardous waste in 40 CFR 261.33(e) or (f). This determination cannot be made until the generator of the mixture makes a management decision concerning the recovery, treatment, or disposal of the mixture. To the extent that the mixing of product and water, from whatever source, is unavoidable and the recovery of the product is a standard practice in the management of the product, the **product** is not a solid waste and therefore not a hazardous waste. The **water** from the recovery process is "wastewater" and is a solid waste and may be a hazardous waste. RCRA does apply to the management of hazardous wastewaters from this process and generators must comply with K.A.R. 28-31-4.

If the mixture did not contain a listed hazardous waste, the "wastewater" which remains after the product has been removed must undergo a Toxicity Characteristic Leaching Procedure (TCLP) evaluation. If the "wastewater" passes the TCLP evaluation it should be managed as solid waste. If the "wastewater" fails the TCLP analysis or if the "wastewater" came in contact with a listed hazardous waste (40 CFR 261.33) the "wastewater" must be managed as a hazardous waste. An exclusion is contained in 40 CFR 261.3(a)(2)(iv) which states the "wastewater" mixture of solid and hazardous waste is, "...not hazardous...if the generator can demonstrate the mixture consists of

wastewater the discharge of which is subject to regulation under either section 402 or section 307(b) of the Clean Water Act." This wastewater would, however, be regulated as hazardous waste until it is discharged into the unit regulated by the Clean Water Act. The **intentional** mixing or purposeful non-separation of product and hazardous wastewater to avoid RCRA regulation is not allowed.

An example of a **Petroleum Product/Water** mixture and some of the regulatory issues which are involved are shown in the following case:

Trucks are loaded with petroleum product at petroleum storage terminals for transport to customers. The trucks pull onto concrete pads for loading. Occasionally, product spills onto the pad from the truck or loading mechanism and becomes mixed with water from washing down the pad or from rain falling on the pad. The pad is constructed so that the product/water mixtures will flow into a drain and enter a collection system consisting of pipes and tanks, including a gravity separator followed by product and water collection tanks. It is possible to bypass the separator, and pipe the product/water mixture collected from the drain back to the product tanks, or into a product/water mixture storage tank, or directly onto a vehicle for transportation to an offsite recovery facility.

Based on this brief scenario, the facility raised the following questions; the answers are the U.S. EPA's response:

1) If separation occurs at the loading facility, as described, is the water leaving the separator a solid waste?

As a material that is being sent for treatment and disposal, the water would be considered a solid waste.

2) If the separated water is a solid waste and tests TCLP hazardous, is the water collection tank, which receives the water flowing out of the separator, a hazardous waste tank under RCRA?

In general, if the water collection tank is used for managing a hazardous waste, the unit would be considered a “hazardous waste tank,” assuming it meets the definition of “tank” found at 40 CFR 260.10. This determination must be made on a site-specific basis by KDHE. If the hazardous waste is stored in the tank for less than 90 days a RCRA permit would not be required.

3) Is the unseparated product/water mixture a solid waste?

If the mixture is determined to be an off-specification product and is intended to be recovered, it would not be a solid waste. However, if the product/water mixture is not to be recovered; or if the “recovery” is an incidental process that does not actually recover usable product; or if the mixture was intentionally generated solely to avoid regulation of the hazardous water before its treatment and disposal, the mixture would be determined to be a solid waste. This determination must be made on a case-specific basis by KDHE.

4) If the on-site separator is bypassed, can the product/water mixture be transported to an off-site recovery facility for product and wastewater treatment without a RCRA manifest?

Whether the separator is bypassed has little impact on determining whether a RCRA manifest is required. The determining factor is whether the mixture sent off site is a hazardous waste. If it is a hazardous waste, a hazardous waste manifest is required. However, if the separator is being bypassed solely for the purpose of avoiding regulation of the contaminated water, KDHE may determine this scenario to be a sham recycling situation in which the main intent is to avoid the regulation of the transportation and storage of a hazardous waste water under the guise of a recycling operation.

5) Does the facility receiving the product/water mixture require a RCRA TSDF permit to receive the mixture if the facility recovers product and treats the separated water in a system which meets all the requirements of the wastewater treatment exemption under RCRA?

This determination must be made by KDHE. If the product/water mixture is not solid waste when received at the recycling facility, then no storage permit is required. In addition, the recovery process itself is generally exempt from permitting requirements. However, the hazardous water that is separated from the product would be subject to regulation as a hazardous waste. If the water is treated in a wastewater treatment unit that is exempt from RCRA permitting requirements, no RCRA permit is required.

Questions concerning the regulatory status of petroleum product/water mixtures are often too complicated by case-specific technical issues to allow general guidelines to be of much use for specific waste management decision making. Therefore, a determination regarding the regulatory status of petroleum product/water mixtures must be made by KDHE. Factors which enter into such decisions involve industrial operations including: pipeline operations, refinery operations, storage-oil separation tank management, management of spills from routine handling, and recovery operations resulting from accidental spillage.

Additional Information

These are general guidelines only. For information regarding any specific or different management options, you may contact the Bureau of Waste Management at (785)296-1600 or at the address at the top of this document. This document and additional information are also available on BWM’s website: www.kdhe.state.ks.us/waste.